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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/495,407	01/31/2000	Keith Stivers	OSI-2300/2310	4823
7590	07/09/2004			
Stuart O Lowry Kelly Bauersfeld Lowry & Kelley LLP 6320 Canoga Avenue Suite 1650 Woodland Hills, CA 91367			EXAMINER MOSSER, ROBERT E	
			ART UNIT	PAPER NUMBER
			3714	

DATE MAILED: 07/09/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/495,407

Applicant(s)

STIVERS ET AL.

Examiner

Robert Mosser

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 6-4-2004.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-28,33-51,53,54,56-62,64,65,67-73,77-88 and 90-96 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-28,33-51,53,54,56-62,64,65,67-73,77-88 and 90-96 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____.
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____.

DETAILED ACTION

Claims 1-28, 33-51, 53, 54, 56-62, 64, 65, 67-73, 77-88, 90-96 are pending.

**Previously indicated allowable subject matter has been withdrawn due to the
discovery of new prior art.**

This Action is Non-Final.



Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims **1-11, 33, 60, 65, 67-73** are rejected under 35 U.S.C. 103(a) as being unpatentable over Gobush et al (US 5,803,823) in view of Gobush et al (US 6,241,622) in further view of Bouton (US 5,472,205).

Gobush (5,803,823) teaches an apparatus for monitoring the swing path of a golf club close to impact with a ball including an impact location for receiving the ball (Fig 4 & 5) and a first sensor (6) proximate to the impact location;

Though stating that the features directed to the tracking and calculation of golf ball behavior are old and well known Gobush does not teach the specific tracking of the ball parameters or the incorporation planer sensor array. However Gobush does teach the tracking of ball related parameters in a related document (US 6,241,622).

Gobush (6,241,622) teaches an image capture device including a camera (36, 38) for capturing two or more images of the golf ball after impact with the golf club head (Fig 4 & 5); and a processor for receiving signals indicative of a temporal profile and three dimensional velocity of the golf ball by extrapolating perimeters of two or more images taken using the camera, and by determining three-dimensional spatial positions of the ball in said images and calculating the three-dimensional velocity of said golf ball based on said three-dimensional spatial positions (Abstract, Col 8:39-42, Col 10:10-17, Col 13:45-50). Described variants of these extrapolations based on orientation and flight behavior are believed to be well encompassed in the 34 equations contained within the 6,241,622 reference that encompass elements from Cartesian position, formulas relating velocity to time, ball spin direction to time or position and a variety of other extrapolations based off of the initial ball impact event.

It would have been obvious to one of ordinary skill in the art at the time of invention to have incorporated the ball tracking system as taught by Gobush (6,241,622) with the club tracking as taught by Gobush (5,803,823) in order to provide a calculation verification means and better analyze the effect of the swing on true ball flight behavior.

In another related application Bouton teaches a first array of sensors proximate to the impact location and a second array of sensors spaced apart from the first array behind the impact position along swing path, the first and second array positioned such that a golf club swung in preparation for contact with a golf ball at the impact location will have a swing plane in angular relation to the first and second arrays (Fig 8, 9). Claim language found in at least claims 2-6 is interpreted as further describing the

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sensor array as presented in figure 8 with claimed variants of functionality found in figures 5 and 13.

Bouton further teaches a processor for receiving signals indicative of a temporal profile of which sensors the golf club head is over during the swing and for determining at least one of swing path and a club head angle of the golf club based on said signals indicative of the temporal profile (Fig 5, 8,9).

It is the examiner's interpretation that any temporal elements not directly stated in the reference of Bouton are encompassed in Bouton's calculation of ball velocity which in turn would require the measurement of time in association with distance to calculate. Further this sensor matrix would serve as so set forth to accurately determine the position of the club both on it's approach and departure serving as ideal trigger means for the image system of Bouton described above.

It would have been obvious to one of ordinary skill in the art at the time of invention to have incorporated the sensor array of Bouton in the invention of Gobush/Gobush in order to provide detailed shutter timings for the camera trigger and an additional calibration method for the device of Gobush/Gobush.

Claims **12-28, 34-51 , 53-54, 61, 62, 64, 77-88, and 90-96** are rejected under 35 U.S.C. 103(a) as being unpatentable over Gobush et al (US 5,803,823) in view of Gobush et al (US 6,241,622) in further view of Bouton (US 5,472,205) in yet further view of Mook (US 5,067,719).

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Regarding at least claims **12-28, 34-51, 53-54, 62, 64, 77-88, and 90-96** and in addition to the above stated. The invention of Gobush/Gobush/Bouton teaches the use of dots for the automatic extrapolation of spin, determination of ball perimeter, but is silent regarding the use of stripes or a stripe rather than dots as a visual reference tool.

In a related application Mook teaches the use of colored circumambulatory stripe(s) around a golf ball for a visual indication of ball spin through color (Abs 7 Fig 1-5). It would have been obvious to use the stripes of Mook as reference indices in the invention of Gobush/Gobush/Bouton in order to provide an index which could not be obstructed through the presence of finite amount of dirt on the ball surface.

Regarding at least claim **61**, the invention of Gobush/Gobush/Bouton/Mook is silent regarding the use of a single camera opposed to multiple cameras. It would have been obvious to one of ordinary skill in the art at the time of invention to have utilized a single camera in place of multiple camera of Gobush/Gobush/Bouton/Mook in order to reduce system cost.

It is the examiner's interpretation that in the replacement of the dot system of Gobush as taught above with the stripe(s) system of Mook, features that where previously measured by the dots would be so equivalently measured by the stripe(s). For example in claim 49 the curvature of the stripe would be inherently the function of ball orientation and as the stripe(s) of Mook are taught in the claimed manner any stripe(s) would be visible from a fixed view during the swing. As such the stripe would

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serve the same function and purpose as the described stripe laid forth in the invention of Gobush/Gobush/Bouton/Mook.

Allowable Subject Matter

The indicated allowability of claims 1-28, 33, 6062, 64, 65, 67-73, 77-81, 83, and 85 is withdrawn in view of the newly discovered reference(s) to Mook and Gobush.

Rejections based on the newly cited reference(s) may be found above.

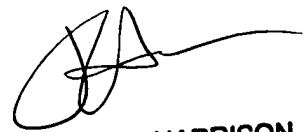
Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Robert Mosser whose telephone number is (703)-305-4253. The examiner can normally be reached on 8:30-4:30 Monday-Thursday.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Derris H Banks can be reached on 703-308-1745. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

REM


JESSICA HARRISON
PRIMARY EXAMINER